

Assessing Quality Control Methods of Services A Case Study: Sudan Telecommunication Companies

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Abstract: This research addresses the evaluation of quality control methods of services in Sudanese Telecom companies. Research objectives can be summarized in; identifying standards, regulations and methods of quality measurement, ensure all are applying these standards, and ensure that there is a continual improvement at all levels. The study has adopted the descriptive method (Case Study) and statistical approach. Data was collected through the basic instruments (the questionnaire), and the secondary instruments like books, magazines and other related editions. The conclusion of study indicates that the three companies are competitive and quality sensitive from the stand point of measurement, improvement and the right selection of employees and well as their training. Add to that a difference in the price of the provided service and levels of profits among companies. The most crucial recommendation is the necessity to accelerate solving customers' complaints properly, and to adopt the strategic thought in the field of services, determine risks, establish risk management to maintain quality level, aware of competitive price, follow-up and implement the updated systems in the field of measuring and improving service quality.

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1. Introduction

The assurance to provide quality product or service to consumers is what nowadays called "quality assurance". it was and still essential part of the production cycle over all times.

The meaning of quality depends on the way that we look at it. It can be figured out in three different perspectives:

- Firstly, the quality of the design; which focuses particular characteristics, tangible and intangible in design of that product or service.
- Secondly, the quality of performance; as it is scientifically impossible for performance quality to beat the level of design quality.
- Thirdly, the production quality; as the perfect match between production capabilities and the specifications set for a product might bring quality good match of quality in spite the characteristics set for the product or service are of average quality. Product quality level of the goods and services considered as important issues to the consumer, where products are favored for their quality even its very expensive, so companies must do the process of continues assessment and standing on the deviations in quality, setting the means of constant evaluation and manage to the provided goods and services. Through this research will be to identify ways and methods of constant assessment and evaluation of the service quality that Telecom companies followed in Sudan.

Research Problem:

Services considered intangible, i.e. has no physical entity and the beneficiary lacks the ability to make decision or judgment according to tangible assessment through touch, taste, smell or see it before obtain the service, as well the service required strong link between the provider and the demanded i.e. the service providing should be at the same time been required and there was no assurance of service results when the demanded intervene in generating the service itself and the service exposed to the demise of the patio at the time of use and the difficulty of storage. According to this problems subject to services, how the service providers could evaluate continually the service quality to control and evaluate it to maintain the positive relationship with customers, especially under the frenzied competition in all business sectors in particularly Telecom sector which demonstrating high-tech revolution at the same time demonstrating frenzied conflict between Telecom companies to obtain services providing to the customers in satisfaction manner that ensure their loyalty in the future.

Research Hypothesis:

1. Employees good selection in the services sector and the good training of them in how to perform the service and motivate them financially, ensure the good performance of the service.
2. Prototypical the steps and procedures of service providing in the organization, influencing on service quality control.

3. Putting suggestions and complaints boxes to enable the client offering positive or negative information influencing positively in the quality of provided service.

4. Pricing services differently, increasing the demand on buying service, hence facilitating the process of assessment and calibration.

Research Importance:

The importance of the research can be sensed from the vitality of services and its closed association with individuals lives, which required to check the provided quality level in service and maintaining the continued assessment and calibration, whereas the offered in the market is not only material goods but integral services and in some times will be a service supported by material and tangible goods or material goods supported by services, this existence of the service reflects the importance of providing with fully renewable quality.

Research objectives:

Product or service quality must be considered as a main goal to the organization, and so there must be an integrated work between the function of quality and remaining part of the organization instead of considering it as independent affiliate system respect only to the process of examination, the most important objectives that research seek to achieve:

1. Identifying to the standards, systems and methods of quality measurement.
2. Ensure that all including Managers knowing these standards and systems and realizing that the quality assessment do not consider only how much the productivity but also the production quality.
3. Ensure that the organization perform measurement of improvement score in the quality at all organizational levels and place incentives system in line with this goal.

Research Methodology:

This research adopts the Descriptive Analytic Method which describes the phenomena of the study subject throughout the provided case study, the statistical method used to analyze the data and information subject to the case study.

Research Limits:

- a) Temporal: The research covered the period of 2010 to 2013.
- b) Spatial: Telecom Companies that working in Khartoum State (Zain, Sudani, MTN).
- c) Research Sample: group of the employees of the said telecom companies.

Data and Information Sources:

Secondary Sources: references, thesis and researches, periodicals and magazines.

Initial Sources: The information resulted from research sample.

Research Tools:

Questionnaire was used to obtain the initial information from the selected sample.

Research Theoretical Framework

1st: **Basic Concepts of Quality:**

1/ **Quality Concept:**

As Fisher's point of view, the quality express about the degree of sparkle and distinction and the fact that the performance is excellent or the fact that the products characteristics or some of its characteristics (good or service) are excellent upon comparing with the settle standards from the perspective of the organization or the client (Fisher 1996), as well it means achieving client's goals and desires continuously (David 1994).

Kwan (1996) specified the concept of quality in five trends as following:

1. Quality is the ability of the organization to produce and provide exceptional service distinguished from other organizations.
2. Quality is the ability of the organization to produce and provide a service close to perfection.
3. Quality is the ability of the organization to fulfill the needs of the client in accordance with desired goals.
4. Quality is the ability of the organization in making changes in its services and production that commensurate with the market supply and demand situations.
5. Quality is the ability of the organization to realize higher profits.

As the customer looks to the quality as a value, i.e. how the good product could achieve the targeted goal according to the price he wish to pay, or it's the suitable for use (Saad 2003).

The following table abstracting quality concepts according to some of early pioneers:

Table (1) Quality Concepts

Quality Pioneer	Quality Definition	Targeted to
Juran	Appropriation of use	client
Demeng	Appropriation of purpose	client
Graven	As the privacy of clients	Client and supplier
Crosby	Conformity of Specifications	Supplier
Ishikawa	As the privacy of clients	supplier
Vigenbawm	Client satisfaction at the less price	supplier
Taguki	As the privacy of clients	supplier

Source: Juran and Grynaf, 1994.

2/ **The Pillars of Quality:**

Quality based on two essential pillars and cannot be achieved without coexist together: (Abdul Hadi e.t.)

a) **The quality of the product:**

quality of the product means to determine specified characteristics making it able to offer specific fulfillment or providing a required service, and the design may differ for the product, whereas every design reflects specific level of quality fit with the way of product use and buyer standards in its provide. The elements that the products designs based on, represents in quality description, overtaking limits, measurement methods, the way of maintenance and design revision.

b) **Execution Quality:**

The meaning of designing execution, the way that lead to produce the product according to the specifications determined by the design and the quality of implementation expressing about the extent of the conformity of the products to the characteristics determined previously, the quality implementation depends on two main elements (Abdullah et. 1981)

1- The possibility of the production system to produce the product according to the placed characteristics.

2- The possibility of the system performing the quality control to discover the deviations and identify to the product's conformity degree within the permissible limits.

3/ **Quality Objectives:**

The quality objectives might be specified into five categories (Mohamed et. 2003)

1- The objective of the organization external performance which including markets, environment and society.

2- The objective of the product performance which addressing client's needs and competition.

3- Process objectives which addressing the ability of the process, its effectiveness and its ability to controlled.

4- The objective of the internal performance which addressing the organization ability, its effectiveness and the extent of its response to the changes and work environment.

5- Employees performance objectives which addressing skills, abilities, motivation and employees development.

4/ **Responsibility of Quality Level Determination:**

There was no deal between Authors in determining the management body that responsible of determining the appropriate level of quality, the quality can be viewed as consist from two parts as: (Mohamed 2003).

a/ **Technical Part:**

Represented as the technical characteristics must be offered in the required item, the susceptibility of quantifiable and accurate definition, this part represents the essential profession of the

technical department of the organization as which it determining the minimum limits that required not to be exceeded and the limits of permitted deviations.

b) **Commercial Part :**

means the process of liking the technical parts and economic considerations in terms of prices, payment conditions and delivery and so on, in purpose of offering the required level with the possible minimum cost and this part represents the main occupation of the purchase entity.

2nd: **Services Background:**

Services considered as identified activities but it isn't tangible and represent the main target that deal with whom aimed to achieve customers satisfaction and this what called the first group of services and it is the essential services. As for the second group its including complementary services that support or facilitate selling a material goods or any other services, so when buying a recorder, the person may wish if he obtain the service of technical information from the retailer or another service ensure for you using the credit card for buying, service marketing man may need to know what exactly the meaning of essential service that he provide and so the complementary services that supporting this essential, whereas the service is a process or performance and isn't something materially (Hani 2005).

In order to achieve service's corporation its desired objectives, it shall be responsible to provide services that fulfill the needs and desires of the beneficiaries and realized to them a level of satisfaction according to their expectations and aware of the benefits results from the required service. Needs fulfillment and achieving beneficiaries satisfaction, realized only when the service organization be aware of the truth that in many cases, the beneficiary doesn't seek for the essential service away from the other services that supporting this essential (Hani 2005).

Cutler and Armstrong defined the service as the activity or benefit that a party provide it to another party, and basically will be intangible or imperceptible and doesn't consequent any ownership. So, service providing may be associated with a material product or may not. (Kotler, P, Armstrong, 2004).

1/ **Service Quality Concept:**

It is not easy to define accurately the service quality, since each individual try to write about it or exercise it, find that it is difficult to him finding a practical expression agreed with the others, and this difficulty to define the service quality derives from the general characteristics that distinguished the services compared to the physical goods. It might be defined as standard for the degree of actual

performance conformity with the client's expectations to this service. (Awad 1999)

2/ Service Quality Perceptions:

Consumer's perceptions to the service quality are widely different as well as the consumer's perceptions to the provided services too. Two distinguished variables influencing on their perceptions, client's expectations and the service routine, the distance between expectations, routine and the performance of the service, the first parameter to the overall quality of service. It is very easy to bring happiness to consumers whom have expectations less than the other consumers whom have more expectations. (Sorour 2007).

3/ The Concept of Service Continued Improvement Philosophy:

Philosophy Concept of the Service Improvement, means the philosophy that seek to improve all process required for providing continuously the service to the client, and to ensure its compatibility with the needs, desires and expectations of the customer, and that there are always exerted efforts to make changes and amendments for the continuation of this compatibility which give competitive advantage, and this achieved through the followings: (R'afat 1996).

- a) Reduce and avoid risks before it's happening.
- b) Determining accurately the problems and set the required methods to its solve.
- c) Updating the deviations that happen during service providing.

Field Study

1st: Researchers distribute the questionnaire form to the selected sample randomly which it consist of 60 person of the Telecom companies employees (Zain, Sudani, MTN), and the following is the table that show the distributed forms:

Table (2) (Form Distribution)

Distributed forms	Received	Excluded	Subject to Analysis	
			Num.	%
60	60	--	60	100

2nd. Statistical Methods:

Been relying on the SPSS program to analyze the forms and the researcher depends on the following statistical data:

- (X²) Chi-square, whereas it used to exam the existent of statistical differences between variables of the study through measuring the level of morale to verify the hypotheses of the study.
- Alpha Cronbach: To measure the validity and reliability of the respondents Answers.

In the context of the using (SPSS) program of statistical analysis, there was been used the averages and standard deviation, all that to measure the relationships between the research variables.

Validity and Reliability of the Questionnaire:

Exploratory Study was been conducted to a sample of Faculty Members to measure the reliability and validity of the question in the questionnaire form, Alpha value was (80.2%) according to the (Reliability Coefficients) measure, and it's a good ratio indicating to the reliability and validity of the questionnaire form according to the statistical standards.

Scientific Discussion and proving the research Hypothesis:

On the next part of the research, the research team will interview the field study data and discuss it to extract the results and find some conclusions regarding the views of employees in the Telecom Companies, and the way followed in providing services to the clients and satisfaction degree of these services as the employee's point of views.

Table (3) Evaluation of Services Quality Control Methods according to Likert scale

Sentence	Strongly agreed And agreed	I, don't know	Strongly disagreed and disagreed
Organization setting standards to measure the quality of all provided services.	59	20	21
All employees well known of the provided services measures standards	95	5	0
Organization perform quality assessment continuously and regulatory.	76	13	11
Employees obtained monthly incentive in regards to quality measurement against their performing the measurement process.	78	12	10
Organization assess the service according to the placed standards	78	7	15
Organization set stationary systems to control the quality of the provided service	78	12	10
Organization aware of physical environment as light, décor and art sides permanently and continuously	76	16	8
Service been provided through stationary procedures and identified systems.	65	3	32

There was complaints and suggestions box that the service beneficially may use.	58	24	18
The organization benefiting from complaints and suggestions in developing the quality of the provided service.	54	13	33
Service been priced differently according to the seasons and the extent of demands of buying the service.	51	12	37
Organization use additional manpower at the time of heavy demand for service.	55	33	12
Organization uses the advance booking for obtaining the service.	90	10	0
Organization uses client's self-service system to help obtaining the service.	80	8	12
Organization announce monthly and regulatory about its services through variable Media.	69	20	11
Organization aware about the continued improvement procedures for service quality.	87	5	8
Organization placing policies, strategies, and clear procedures to improve service quality.	100	0	0
All employees are well known about these policies, strategies, and procedures.	71	13	16
Improvement procedures including all organization sections as it considered as a participant in producing and providing the service.	78	17	5
Organization placed the Improvement procedures throughout the evaluation results.	83	7	10
Upon designing the Improvement procedures, organization considering the competition.	53	17	30
Client easily obtains the provided service.	75	19	6
Client satisfied with the level of the quality of the provided service.	87	7	6
Client satisfaction appears through the permanent and repeated frequency to obtain the service.	50	21	29
Organization placing financial and morale incentives to gain satisfaction of employees whom deal directly with clients.	62	20	18

Ref.: Field Study Data.

In the previous table, the researchers collect the rates of agree and strongly agree as well as disagree and strongly disagree to facilitate the view process.

The above table indicates that there was some of sentences exceeded the rate of agreed of 80%, and represent as:

1. All employees well knew of the provided services measures standards.
2. Organization uses the advance booking for obtaining the service.
3. Organization uses client's self-service system to help obtaining the service.
4. Organization aware about the continued improvement procedures for service quality.
5. Organization placing policies, strategies, and clear procedures to improve service quality.
6. Organization placed the Improvement procedures throughout the evaluation results.
7. Client satisfied with the level of the quality of the provided service.

Notes that the phrases was exceeded the agree rate of 80% on it by employees, was linked all with the quality process and its improvement which indicates about the Telecom Companies awareness of the private standards in service quality control.

For the remaining phrases, the agreed rates are coming varying nut most of them pear a positive signs represented that there was interesting by Telecom companies Management in providing services with distinguished level to its clients and there was a good recognition of what the client need.

This research interest in the process of service quality evaluation through company's point of view, with the complete recognition to the importance of client's point of view in the provided service and this will be addressed in the coming researches and studies.

Research Team will prove research hypothesis in the next part by using Averages, Standard Deviation and Chi-Square.

Examine Research Hypothesis:

The 1st Hypothesis: The good selection to the service sector employees and the good training to them on the way of providing service and incent them financially, ensure the good performance of service.

Table (4) Arithmetic mean, standard deviation, the chi-square and probabilistic values

Phrase	Arithmetic mean	standard deviation	chi-square	probabilistic values
Organization set stationary systems to control the quality of the provided service	3.55	0.99	65.45	0.000
Organization placing financial and morale incentives to gain satisfaction of employees whom deal directly with clients.	4.23	0.58	36.20	0.000
Organization aware of physical environment as light, décor and art sides permanently and continuously	4.33	0.75	72.20	0.000
Service been provided through stationary procedures and identified systems.	3.32	0.89	55.10	0.000

Ref.: Field Study Data.

Indicates from the above table, that all arithmetic means are larger than hypothesis mean (3) is which indicates to their acceptance to these phrases.

Standard deviation to these phrases is about (0.75 – 0.99) which indicates to homogeneity of the phrases.

The probabilistic values for all phrases are less than the morale level (0.05) which indicates to the non-existence of differences with statistical significant. And this is proving the 1st hypothesis.

2nd Hypothesis: Prototypical of the steps and procedures of service providing in the organization, influencing on service quality control.

Table (5) Arithmetic mean, standard deviation, the chi-square and probabilistic values

Phrase	Arithmetic mean	standard deviation	chi-square	probabilistic values
Organization placing policies, strategies, and clear procedures to improve service quality.	2.90	1.20	40.10	0.000
All employees are well known about these policies, strategies, and procedures.	3.20	0.87	47.13	0.000
Organization use additional manpower at the time of heavy demand for service.	3.67	0.88	60.15	0.000
Organization uses the advance booking for obtaining the service.	3.88	0.92	43.90	0.000
Organization uses client's self-service system to help obtaining the service.	3.43	0.79	70.1	0.000
Organization announce monthly and regulatory about its services through variable Media.	4.55	0.82	52.20	0.000

Ref.: Field Study Data.

The above table Indicates that all arithmetic means are larger than hypothesis mean (3) which indicates acceptance of Telecom companies employees to these phrases. Standard deviation to these phrases is about (0.79 – 1.04) which indicates to its homogeneity.

The probabilistic values for all phrases are less than the morale level (0.05) which indicates to the non-existence of differences with statistical significant. And this is proving the 2nd hypothesis that saying: (Prototypical the steps and procedures of service providing in the organization, influencing on service quality control).

3rd Hypothesis:

There were suggestions and complaints boxes to enable the client offering positive or negative information influencing positively in the quality of provided service.

Table (6) Arithmetic mean, standard deviation, the chi-square and probabilistic values

Phrase	Arithmetic mean	standard deviation	chi-square	probabilistic values
Organization aware about the continued improvement procedures for service quality.	3.80	0.78	35.10	0.000
There was complaints and suggestions box that the service beneficially may use.	3.13	0.79	66.13	0.000
The organization benefiting from complaints and suggestions in developing the quality of the provided service.	4.65	0.88	45.17	0.000
Improvement procedures including all organization sections as it considered as a participant in producing and providing the service.	3.10	0.70	50.40	0.000
Organization placed the Improvement procedures throughout the evaluation results.	4.12	0.65	68.33	0.000

Ref.: Field Study Data.

The above table indicates that most of arithmetic means are larger than hypothesis mean (3) which indicates acceptance to these phrases. Standard deviation to these phrases is about (0.65 – 1.20) which indicates to the phrases homogeneity.

The probabilistic values for all phrases are less than the morale level (0.05) which indicates to the non-existence of differences with statistical significant. This proving the hypothesis validity.

4th Hypothesis:

Pricing services differently, increasing the demand on buying service, hence facilitating the process of assessment.

Table (7) Arithmetic mean, standard deviation, the chi-square and probabilistic values

Phrase	Arithmetic mean	standard deviation	chi-square	probabilistic values
Upon designing the Improvement procedures, organization considering the competition.	3.90	0.92	25.20	0.000
Client easily obtains the provided service.	2.78	0.67	37.40	0.000
Client satisfied with the level of the quality of the provided service.	3.78	0.85	40.23	0.000
Client satisfaction appears through the permanent and repeated frequency to obtain the service.	4.60	0.78	67.10	0.000
Service been priced differently according to the seasons and the extent of demands of buying the service.	4.78	1.04	88.23	0.000

Ref.: Field Study Data.

The above table indicates that most of arithmetic means are larger than hypothesis mean (3) which indicates acceptance to these phrases. Standard deviation to these phrases is about (0.58 – 0.92) which indicates to the phrases homogeneity.

The probabilistic values for all phrases are less than the morale level (0.05) which indicates to the non-existence of differences with statistical significant. This proving 4th hypothesis validity.

Results and Recommendations:

1: Results and Conclusions:

1. The three companies are competitive and the nature of the competition results the interest to the quality through the good selection to the employees, training them, incentives, the advance level in providing service, aware of client's requirements, offering him the necessary information, aware listen to his problems and find the appropriate solutions.

2. There was a difference in the price of provided service between the three companies, whereas some counting by seconds and some ignore it. As well Zain Company distinguished that the others that it is the oldest and that have had the advantage that most of clients subscribed in Zain services, additional to the wide spread of its branches covered different areas in Khartoum State.

3. The three companies interest in quality measurement process, its improvement through the reality of the provided service and its developing in appropriate with the Global trends in the field of Telecommunication, and permanently satisfying the

client through Self-service system to helps clients obtaining the service, salaries system and incentives offered to employees.

4. These companies distinguished with its interest with the Technical aspects of the services and commercial aspects as it achieved high profits which reflects on the permanent developmental aspects whether to the provided services or the situation of these companies.

2: Recommendations:

1. The necessity to speed up to solve clients' problems & complaints through the required methods of solutions, and the necessity to determine the risks, especially in the event of competition and determine the deviations to take the correction procedures in a timely manner.

2. The necessity to watch the competitive market prices and there shall be no difference in pricing unless the company offering an exceptional services distinguished than the other companies.

3. The necessity to combine the value of the client– represented in his usual obtaining of the service in certain price and value – and easy accessibility and find innovative ways to gain his loyalty and between satisfying employees by keep them on work for a long time.

4. The continuous follow up and update of innovative systems in measuring and improving services quality and applying for whole levels in proportion to the needs fulfillment of the client and its abilities in obtaining the service, and the interest

of strategic thought in the services sector and the necessity of establishing a private department to avoid fall in risks that may hinder the work of these companies in the future.

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References

1. Khudair Kasim Homoud, Quality Management and Client Service, Amman, Amman, Dar Almanahij Publishing, 2002.
2. Ra'fat Shukri, Quality Management (The Active Dynamic Management), Management magazine, 30th Vol., 1st Ed., Jul 1996.
3. Farid Cortail, Services Marketing, Al-Ma'arifah Publishing & Distribution, 1st Ed. 2009.
4. Hani Hamed Al – Domour, Services Marketing, Amman Dar Wa'eal Publishing & Distribution, 3rd Ed. 2005.
5. Mohamed Abdul Fattah Al Syrafi, Lead Management, Amman Dar Safa'a Publishing & Distribution, 2003.
6. Mohamed Tawfeeq Madi, Production & Process Management (decision-making Entrance), Alexandria, Dar Al-Ma'arif, 2011.
7. Mohamed Tawfeeq Madi, Quality Management (Integral System Entrance), Alexandria, Dar Al-Ma'arif, 1995.
8. Qasim Nayef Olwan Al-Mahyawi, Service Quality Management (Concept – Processes - Applications) Amman, Dar Al-Shorouq Publishing & Distribution, 1st Ed. 2006.
9. Sorour Ali Ibrahim Sorour, Service Quality Management in Hospitality, Tourism and Leisure, Riyadh, Dar Al-Mariekh Publishing, 2007.
10. Awad Bidair, Banking Services Marketing, Cairo, Bayan Printing & Publishing, 1999.
11. Fisher, Barry, (1996), Installing Implement the document at lough brangh university, U,K.
12. Heizer, J. and Render, B., (1988), Production and operations Management, Allynand Bacconninc., London.
13. Juran, J and Gnyna, M, (1993), Quality Planning and analysis, 3th.ed. M C Graw Hillinc, New York>
14. James, P., (1996), Total Quality Management, An introduction Text, Prentice Hallinc, New York.
15. Kotler, P, Armstrong (2004), Principles of Marketing Prentice- Hall, N.J.

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